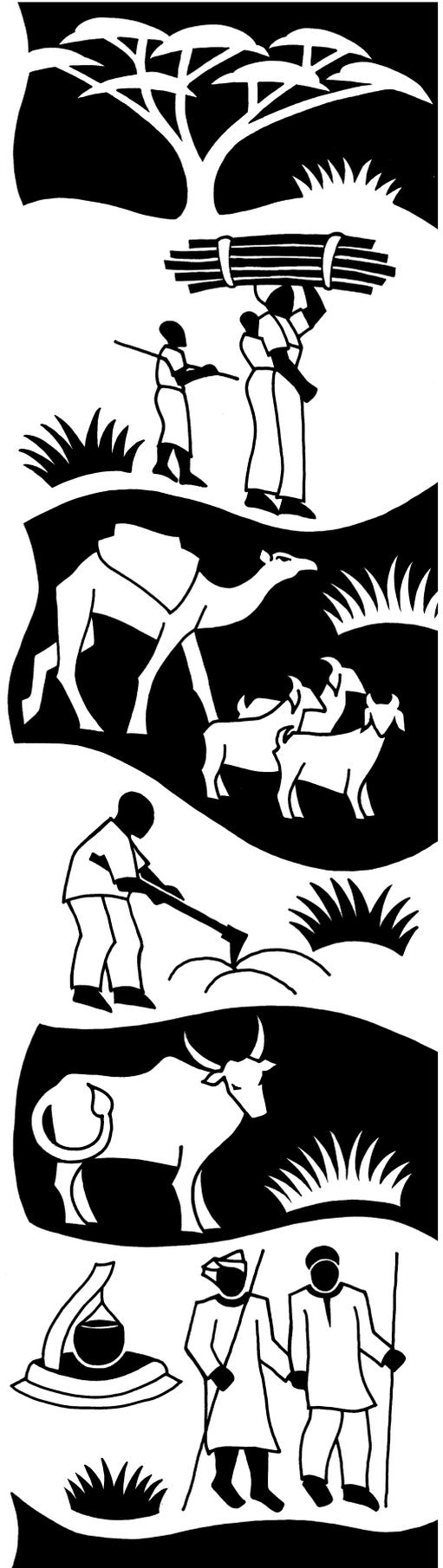


Securing the commons No.7

Social inclusion: a pre-requisite for equitable and sustainable natural resource management

Two experiences in Mali

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April 2003



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Acronyms

ARED	Associates in Research and Education for Development
DFID	Department for International Development
NRM	Natural Resource Management
GDRN5	Network for Decentralised Management of Natural Resources in the 5th Region of Mali
IIED	International Institute for Environment and Development
PRA	Participatory Rural Appraisal
NEF	Near East Foundation
NORAD	Norwegian Agency for Development Cooperation
NGO	Non-Governmental Organisation
SMCPR	Shared Management of Common Property Resources
PAGE-B	Environmental Management Support Project, Bankass
NR	Natural Resources
STP/CIGQE	Permanent technical secretariat of the institute responsible for managing environmental issues

Introduction

The early 1990s saw the launch of two programmes supporting decentralised natural resource management in Mali: the first in 1990, by NEF in Douentza, and the second in 1992, by SOS Sahel in Bankass. The aim of both programmes was to help create the conditions for sustainable community development, by setting up local NRM structures (*Waldé Kelka* in Douentza) and revitalising customary resource management institutions (*alamodiou* in Bankass), improving their organisational capacities, transferring skills and establishing local rules for managing natural resources.

Map 1. Map of Mali



In 1999 both programmes conducted self-evaluations. These revealed that while they had worked closely with sedentary agro-pastoralists and residents in the zone, they had taken little account of the interests of incoming transhumant herders and involved few women in their activities. As a result, local NRM rules were ignored by non-residents, and conflicts over the use of natural resources were worsening.

Several reasons were identified for why this happened:

- The weight of tradition, beliefs and customary rights was such that it resulted in the structural marginalisation of certain actors, such as women and transhumant pastoralists;
- The inability of customary institutions to take account of the interests of all stakeholders in managing common resources;
- NRM policies that did little to foster joint management by a wide variety of actors, and which did not take account of local situations;
- The fact that projects had not developed an appropriate approach to generating understanding and support for the idea of shared management by local people, particularly among resident populations, or recognition of the need to make existing structures more representative.

In order to address this situation, SOS Sahel UK and NEF agreed to participate in a regional action-research programme on shared management of common property resources in the Sahel (SMCPR). This was done through SOS Sahel's Environmental Management Support Project in Bankass (PAGE-B), and NEF's Natural Resource Management and Development Project (PAGRN). Led by SOS Sahel UK and IIED, the aim of SMCPR was to try out approaches to promote 'social inclusion' – that is, informed participation by all actors in the definition and implementation of regulations governing natural resource management.

The aim of this paper is not to provide a formula for sustainable natural resource management, but to make decision-makers, government technical departments and development partners aware of the importance of involving all stakeholders in the management of common resources, and to inform them about the approaches used by these two projects. The importance of social inclusion is based on the hypothesis that the degradation of natural resources is primarily due to the conflict of interests between different stakeholders. It therefore follows that the first task of every programme aimed at promoting sustainable natural resource management is to reduce this conflict of interests

Focusing on the institutional aspects of NRM, this paper describes the context of the interventions, presents several case studies and outlines the lessons learned from the experiences. In light of the conclusions drawn from the action-research for shared management of common property resources, the paper ends by arguing that social inclusion is a pre-requisite for equitable and sustainable natural resource management in the Sahel.

4 Social inclusion: a pre-requisite for equitable and sustainable natural resource management

Context

2

This section deals with the general context in which the action-research programmes led by SOS Sahel UK and NEF evolved. The aim is to demonstrate that natural resources in the Sahel require policies and legislation oriented towards decentralised and shared management and which involve all stakeholders

The need for shared management

Mali is like every other part of the Sahel in that its natural resources are influenced by inter- and intra-annual variations in the climate. The most important factor determining the availability and distribution of water and grazing is rainfall. It is this that largely determines the availability of natural resources in a particular area, and which shapes the production systems and survival strategies employed by local people.

The 5th region of Mali covers two agro-ecological zones: the dryland zone where the districts of Douentza, Bankass, Bandiagara and Koro are found, and the floodplain where the districts of Mopti, Youwarou, Tenenkou and Djenné are located. Several branches of the River Niger cross the floodplain, bringing water and supporting the perennial grass *Echinochloa stagnina*, known locally as *bourgou*. This is much sought after by herders from both zones, on account of its high nutritional value and availability during the dry season, when grass and water are in short supply in pastures in other zones. Its use is tightly regulated by the *dioro*, who exercise customary rights over its management through a system of payments in cash or kind. The floodplain is good for livestock rearing during the dry season but totally unsuitable for animals during the rainy season, when much of it is flooded and is increasingly used for growing rice.

During the rainy season livestock graze in the forests of the Samori and Dogon Plateau in the Bankass District, and Kelka Forest in Douentza District. According to customary practice no charge is made for the use of these resources in these dryland zones. However, during the dry season as water points dry up and grazing deteriorates, large herds of livestock are driven from these areas to the floodplains in order to benefit from the *bourgou* grasslands. In the dryland zone there are a

few higher potential areas composed of wetlands and valleys along seasonal rivers, which support either simultaneously or sequentially several production systems such as farming, fishing, pastoralism and the collection of various forestry products. These zones because of their more favourable conditions are highly prized and a source of growing competition.

The region of Mopti, however, is characterised by serious conflicts over natural resources that recur between villages, forest users, farmers and herders; with disputes arising over damaged crops, obstructed livestock corridors, unauthorised woodcutting and so on. The seasonal movement of livestock between the flood plains and the dryland areas so essential to local people's livelihood strategies only exacerbates the situation.

The national institutional framework: generally positive, but still flawed

The revolution of March 1991 ushered in a new political regime in Mali. The constitution was reviewed, democracy introduced, a national conference held to assess and address the country's major problems, and in 1995 local people were invited to participate in the process of reviewing legislation on the management of forest, fauna and water resources.

In June 1999 the process of decentralisation became operational, with the introduction of new administrative constituencies, municipal elections and the establishment of decentralised local government bodies. In February 2001, a Pastoral Charter was promulgated after a long process involving civil society groups and rural stakeholders.

The institutional environment in Mali is becoming increasingly favourable to decentralised natural resource management, despite some fundamental contradictions between the declared intentions of the law and actual practice on the ground. Obstacles to decentralised management of common resources include: the continued formulation of sectoral and highly codified laws that give local people very little opportunity to identify local rules of resource management that are appropriate to their situation; a fundamentally interventionist approach to natural resource management that favours privatisation and excludes certain categories of actor from the management of common strategic resources (such as wetlands); the difficulties experienced by local communities in seizing the opportunities on offer to promote consensual joint natural resource management; the fact that customary institutions are weak and unrepresentative; the heterogeneity of different communities, conflicting interests and lack of shared vision for the long term; and the lack of local-level mechanisms for co-operation and dialogue.

NRM problems in Bankass and Douentza

The dryland zones of Douentza and Bankass are not only highly interdependent with the delta, but also with other areas, including certain zones in Burkina Faso. Common property resources in these two zones are strategically important to different categories of residents and to other groups from the delta and elsewhere. Competition for these resources has increased significantly over the last few years, not only between different resident groups, but also between residents and incomers. Local and national institutions are ill equipped to reconcile these different interests, and as a consequence resources are becoming increasingly degraded, land use more anarchic and conflicts more frequent

This situation is further complicated by decentralisation. Some of the municipalities established as part of the process of decentralisation have appropriated natural resources on behalf of their constituents, to the detriment of other, incoming communities; while many of the newly elected officials responsible for managing resources are not sufficiently aware of all the issues at stake in promoting sustainable and equitable NRM, particularly with respect to common property resources. Moreover, the planning tools they are trained to use do not take sufficient account of issues such as social inclusion or the option of sharing the management of common resources, particularly among different levels of local government (municipalities, districts, regions).

Box 1: Definition of common property resources

Common resources

This term refers to resources that are simultaneously or sequentially utilised by different user groups. Such resources are managed collectively, either because it is difficult to lay claim to or exploit exclusive rights over them, or because it would not be worth doing so.

Source: Ostrom, E. 1990 "Governing the Commons. The evolution of institutions for collective action". Cambridge University Press, Cambridge, UK.



Photo: Wolfgang Lauber

Bankass: the plateau, cliffs and Seno plain

The following section describes the physical characteristics of the zones in which NEF and SOS Sahel operate, and outlines the land and territorial issues involved in managing natural resources in these areas.

Natural resource management in Bankass District

Brief description of the district

Bankass is one of eight districts in Mopti, the 5th region of the Republic of Mali. Situated south east of the town of Mopti, between the Bandiagara escarpments and the Burkina Faso border, Bankass covers a total area of 9,504 km². With 280 official villages, it has 203,600 inhabitants of Dogon, Fulani, Dafing, Samogo, Bobo, Bozo and Tuareg origin, and an average population density of 21 persons per km². The main economic activities in the district are farming, rearing livestock, fishing, trade and crafts.

The district of Bankass is divided into 12 municipalities. Each has its own elected mayor and an elected municipal council that makes decisions about local development. Development issues concerning more than one municipality are dealt with by common agreement among the relevant municipalities, or by the District council.



Animals in the Seno during the dry season

The district is divided into three agro-ecological zones. Starting with the northernmost zone, these are:

- **The Plateau** area reaches altitudes of 400 to 500 metres, with vegetation ranging from the thin layer of grasses found on rocky terrain to gallery forest in depressions along the ravines, and wooded savannah on the sandy soils in the immediate vicinity of the cliffs.
- **The Seno** occupying the central part of the district, is a huge sandy plain that is completely covered in fields.
- **The Samori** is located in the south of the district and is characterised by clayey and silt-clay soils, relatively plentiful forest resources and water from a permanent branch of the river Sourou, which makes it a good area for rice and fishing.

The district is sub-divided into a number of “socio-cultural units” that predate the colonial period. Led by a traditional chief known as the *hogon* or *massaké*, these institutions are subordinate to a “mother village” that presides over customary land management.

In the Plateau each socio-cultural unit has a traditional association for managing natural resources. These go under various names, such as *alamodiou* or *barahogon*. In the Seno and Samori these associations have been weakened by

migration, lack of recognition by the state technical services and increasing competition caused by the growing human and livestock populations.

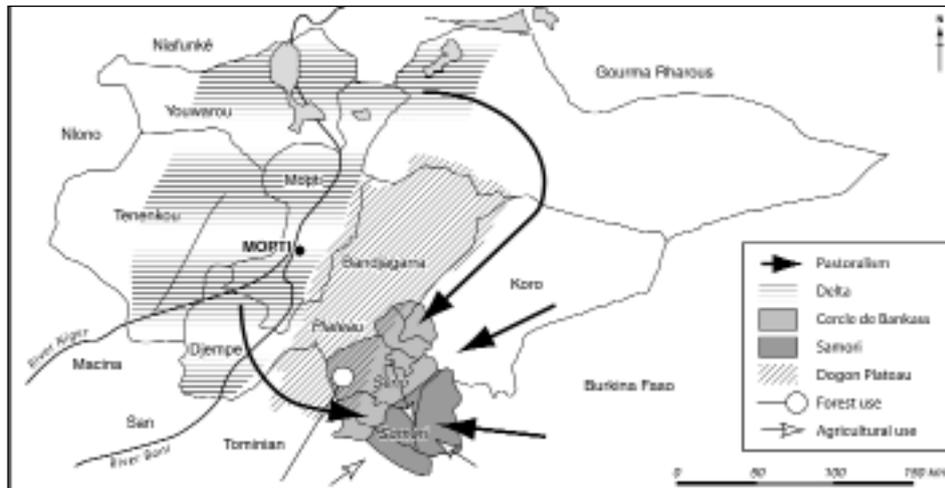
NRM-related problems

Bankass district is characterised by the uneven distribution of natural resources between its three zones, something that neither traditional nor modern institutions seem able to manage successfully.

The Plateau and the Samori both have forest and pastoral resources, while the Seno is an exclusively agricultural zone. As a result of this the three zones are interdependent: livestock from the Seno graze on pastures in the Plateau and Samori during the rainy season, groups from the Seno use the woods in the Samori and the Plateau, and livestock from the Plateau eat crop residues and drink from wells in the Seno during the dry season.

The Plateau has become increasingly attractive to farmers looking for somewhere to grow their crops as increased rainfall and the ability to use longer fallow periods have made land there more fertile. The number of farmers heading into the Samori from the Plateau and the Seno has also increased, and rice growing and fishing have proliferated along the Sourou valley since the construction of a dam on the River Mouné in Burkina Faso secured a year-round water supply for the river. The map below presents a diagram of the different interests operating in this area.

Map 2. The different interests operating in the area



With multiple uses and users operating in the zone there is not only considerable overlap between statutory and customary rights, but also major discrepancies between the traditional and modern NRM regulations applied by local institutions and the state services. The different forces at work are illustrated by the situation in the Samori Forest. This was being classified, but after the State intervened and stopped the process, landowning villages began putting up unregulated hamlets in an attempt to assert and secure their rights to resources in the forest.

The PAGE Bankass programme led by SOS Sahel

SOS Sahel UK started operating in Bankass District in 1992, working on the Bankass Environmental Protection project in partnership with traditional NRM associations and the state technical services. Project activities focused on the identification, institutional analysis (supported by a lawyer) and capacity building of traditional NRM associations such as the *alamodiou* and *barahogon*. These initiatives helped the associations shake off the lethargy induced by the State's failure to recognise them, and to see that they needed to appoint their officers more democratically and decentralise decision-making in order to secure state recognition.

The project succeeded in getting the associations and state services to collaborate over monitoring the bush and forest areas, bringing them together through a series of consultations and workshops. A draft agreement was signed, making the associations responsible for monitoring natural resources and responsible for providing the technical services support in situations that were beyond the associations' capabilities. This not only strengthened their influence with the administration, but also with incomers that had previously not recognised their authority.

When the first phase of the project ended in July 1997 it became clear that while it had worked closely with farmers, the project had failed to take sufficient account of the interests of sedentary and transhumant herders or women. To rectify this, it was decided that one of the objectives for the second phase would be to get herders and women more involved in making decisions about NRM. This second phase, which ran from 1998 until 2002, was the Bankass Environmental Management Support Project, known as PAGE-B.

In order to meet this objective the results of the institutional analysis conducted during the first phase were analysed with each association, to allow their officers to make an informed decision as to whether they should retain their current, traditional structure or adapt it to current legislation and seek legal status. They chose the latter option, with a view to getting themselves formally recognised other operators in this field, particularly the state structures. Other initiatives

included setting up elected steering committees to facilitate the inclusion of marginalized groups like pastoralists and women in decision-making processes.

This is the context of the work done by SOS Sahel to address the issue of social inclusion in partnership with SMCPR.

NRM in Douentza District

Brief description of the district

Douentza is one of eight districts in the 5th administrative region of Mali. Covering some 18,903 km², this district has 255 villages and pastoral groupings and an average population density of 8 persons per km² (1996 census). Its 148,969 inhabitants come from several ethnic groups: the Fulani, Dogon, Bambara, Sonraï, Tuareg and Marka. Administratively, Douentza is subdivided into 15 municipalities, 14 of which are rural and 1 urban. Its economy is principally based on farming, rearing livestock, forestry, fishing and crafts, and local development is overseen by the mayor and elected council of each municipality.

The district has a Sahelian-Saharan climate, with a three-month rainy season and annual average rainfall of 400mm.

Douentza falls into four main agro-ecological zones:

- **Lakeside.** This northern zone contains important aquatic pastoral resources such as bourgou (*Echinochloa stagnina*), which are of considerable nutritional and economic value. Because of its hydro-agricultural potential and pastoral and water resources, there is a significant degree of interdependence and exchange between this and other zones. Dryland crops, particularly millet, are grown on the dunes by the river. Vegetation mainly consists of thorny and often stunted shrubs, such as acacia.
- **Plateau.** Parts of this central zone reach fairly high altitudes. Vegetation consists of significant grassy areas, with some large trees in fields and in the immediate vicinity of the cliffs.
- **Seno.** This southeastern zone is characterised by huge sandy plains, a mixture of fields and pasturelands, and the grassy vegetation found on both the plains and dunes. Because the area is affected by water shortages, particularly after the rainy season, livestock have to leave this zone for part of the year even though there is grass to be found in its fields and large grazing areas.
- **Plains.** Runoff from the plateau provides this western zone with several watercourses, which support woods with medium-sized species. In places (such as the Kelka zone¹) the shrubs and trees are dense enough to form shrubby savannah or tiger bush, with grazing areas enriched by a carpet of herbaceous vegetation.

1. Traditional name for the 106,070 hectare zone, from which the inter-village association *Waldé Kelka* drew its name.

NRM-related problems in the zone of Kelka

The relatively plentiful forest resources and damper, clay and silt-clay soils of this zone between the Delta and the Seno attract various user groups, including resident farmers and herders, transhumant herders from the Delta and Seno, people using and selling wood, and resident and incoming women.

Since the droughts of the 1970s and 1980s Kelka has become an agro-pastoral zone, with fields progressively encroaching into areas traditionally used for pastoral activities (wetlands, transhumance routes and rest areas for livestock). This has created tensions and conflict, not only between resident herders and farmers, but also between resident farmers and transhumant pastoralists from the Delta and the Seno.

Kelka is an important crossroads for livestock on transhumance between the flooded and dryland zones, as herds leaving or returning to the Delta rest here for several days or even weeks, depending on the year. It is also a strategic resource for pastoralist families from the Seno, who spend several days here during the rainy and cold seasons. However, the herders' livelihoods have been compromised by progressive agricultural colonisation, which has eroded their grazing areas and rights of access to common resources. Over the years these rights have been increasingly contested by resident groups, whose response to the effects of drought and demographic growth has been to seek exclusive rights of use over local resources. The ensuing conflicts between these different groups eventually threatened the sustainable use of the natural resource capital in the zone, which is also important to wood sellers from Mopti seeking supplies for the urban market.

The NEF programme

The Near East Foundation (NEF) has been operating in the Mopti region of Mali since 1984. This region, and Douentza District in particular, was selected because many agro-pastoral regions in northern Mali were severely affected by the acute socio-economic crisis caused by the drought of 1983-1984. In Douentza NEF began by providing emergency relief and helping local communities to meet their subsistence needs by rebuilding their herds.

NEF progressively put in place a support programme for local development, aimed at creating the conditions for sustainable community development. Activities covered a range of areas, such as natural resource management, credit, support to civil society groups, literacy training and civic education, support for decentralisation and the promotion of gender awareness.

In the context of natural resource management, NEF collaborated with the state technical services in providing institutional and technical support to an inter-village

association called Waldé Kelka, whose fifteen member villages were spread across four rural municipalities from the districts of Douentza and Bandiagara. A development plan for Kelka zone was formulated and adopted in 1997, but as this was done without the participation of resident or transhumant herders, the plan failed to take sufficient account of their interests in managing resources in the zone, particularly pastoral resources.

In order to address these problems NEF embarked upon a process of action-research in partnership with SMCPR, working with the *Waldé Kelka* association and its member villages, transhumant pastoralists, local governments and the technical services on the need to take pastoralism into account when implementing the development plan for the zone of Kelka.

Summary of the issues and challenges involved

As pressure on natural resources intensified due to demographic growth, an essentially extensive farming system² and progressively shrinking harvests, these resource-rich districts have become centres of attraction for both local and incoming populations.

Each user group sought support from the authority most likely to favour its cause, turning to modern law, customary practice, the administration or political parties in their attempts to defend their particular interests and position. This led to conflict, bad management and unsustainable use of natural resources, and did little to change the view of the technical services and government representatives, which see pastoralism as an unsustainable system of natural resource management.

The NRM programmes led by SOS Sahel UK and NEF thus needed to address several challenges:

- a) The need to **reconcile the different interests and power struggles** between the various groups using common resources. This involves reconciliation at several levels:
 - First of all, between the users themselves: between different categories of resident (pastoralists, agro-pastoralists, agro-fishermen, men and women), and between resident and non-resident groups;
 - Between the technical services and local NRM associations;
 - Between decentralised local governments and customary NRM associations.

- b) The need to activate and support a **process that will enable the different actors to become involved in seeking joint and equitable solutions to all**

2. Except in certain pockets like the Dogon plateau.

these problems. Their participation should be voluntary and informed, and the process should take account of the fact that:

- not all actors have access to the same level of information or education;
- there might be a history of conflict and thus mistrust between certain groups;
- groups may have different values and aims (Islam – traditional religions).

c) The need for **capacity building among project staff and development partners** (technical services, etc). Having received technical and sectoral training, most agents are more familiar with technical problems such as the physical management of NRM, and are not equipped to respond to overtly political situations and concerns, such as redressing the balance of power between various groups. The projects also lacked appropriate tools for working with herders, while their development partners needed training that would teach them more about pastoralism, change their attitudes and dispel any false and negative perceptions about this system.

4 Capacity building

In order to find an equitable and sustainable means of managing natural resources, particularly common resources, project staff themselves needed to acquire certain skills. SOS Sahel UK and NEF therefore decided to collaborate with SMCPR so that they would be better equipped to deal with the challenges facing them.

SMCPR

The SMCPR programme began in 1999 following consultations between the International Institute for Environment and Development (IIED) and SOS Sahel UK, and discussions among the different partners about the relevance of joint natural resource management. Covering four countries,³ this programme was launched in response to the difficulties encountered by the various partners. Its primary objective was to increase their capacity to promote action-research on the issue of social inclusion: that is, addressing the issue of how the legitimate interests of all NRM stakeholders can be taken into account and each group involved in natural resource management.

Capacity building activities

Capacity building activities began in 1999 with training on pastoralism. The aim of this training was to help NEF and SOS Sahel UK staff better understand the logic and functioning of the pastoral system in a Sahelian context, so that they could improve the design and implementation of action-research activities on shared management of common resources.

The new knowledge and more positive perception of the dynamics of agro-pastoral systems gained from this training prompted NEF and SOS Sahel UK to redefine their action-research programmes. However, this led to certain differences of opinion between them and their partners who had not attended the training and still viewed transhumant livestock rearing in a negative light.

3. Mali, Niger, Sudan and Ethiopia.

The first training was followed up with a second module on the 'Family Portrait', a tool designed to help development staff and families better understand the different production systems in the area.⁴ This tool not only provides fairly detailed information about specific families and their survival strategies, but also enables the family to better understand the opportunities and threats in their socio-economic environment. This knowledge filters down from the family to the whole community, which may also be directly informed through public presentations of the portraits. Several portraits of families from different categories of natural resource user, such as resident agro-pastoralists, transhumant herders, etc., can be prepared and presented to local communities to help them better understand their own and others' production systems and the interactions between them.

These two training modules enabled the programme teams to improve their own techniques for collecting and analysing data on pastoral systems, enhance their knowledge of pastoral systems in their zones of intervention and set in motion consultations between the different stakeholders involved in managing common resources.

In addition to these formal trainings, two members of SOS Sahel UK and NEF staff went on exchange visits in the context of the SMCPR programme: one to a Senegalese NGO specialising in literacy and training in local languages (Associates in Research and Education for Development), and one to the Burkina Sahel Programme in Burkina Faso. In Senegal they discussed approaches to conflict management and literacy training in Fulfulde; while the visit to Burkina focused on a consultative framework for natural resource management that had succeeded in reducing the number of conflicts over natural resources in the zone of Kishi Beiga, in the Seno department.⁵

4. See Appendix 1 for a presentation of the "Family Portrait".

5. See No 3 of the *Securing the Commons* series.

Action-research for social inclusion

This section describes how SOS Sahel UK and NEF implemented action-research activities in their zones of intervention. The aim of these activities was to promote a process of informed, local debate involving everyone with a stake in the joint management of shared natural resources. The approach taken by the projects enabled all local actors, from the various resident and non-resident user groups to customary NRM institutions, mayors, elected municipal officials and the different state technical services to analyse their situations and interests in NRM in relation to the other groups, and jointly identify appropriate systems for sharing the management of common property resources.

In order to have a relevant entry point the projects did not follow a pre-determined procedure, but worked through an iterative process prompted by the events and concerns affecting local people. This is tricky process, not only because it calls into question the existing balance of power, but because it has to be conducted by the actors themselves, who need to be informed about the issues at stake and able to work at their own rhythm.

SOS Sahel UK

This section describes the process through which the Bankass Environmental Management Support Project (PAGE-B) facilitated the promotion of shared management of common property resources in an evolving institutional context.

This process involved three stages or types of action: (i) research conducted by the project team with the participation of resource persons from certain social categories; (ii) facilitating participatory analysis of the information gathered, through consultations and workshops that brought together representatives of the different social categories and enabled them to put forward their views; (iii) collective actions undertaken by local people working on the basis of the information provided by the participatory analysis.

Stage 1: Research activities

PAGE-B conducted three types of research activity in the context of the partnership with SMCPR.⁶ These included:

- **Formulating a pastoral map.** The objective of this activity was to make an inventory of and highlight the differing perceptions of 'pastoral' space and resources (stretches of water, grazing areas, transhumance routes) held by various actors in the zone of Samori. Resident farmers, who see themselves as customary landowners in the zone, view all these uncultivated areas as future fields that can be planted when the need arises. This view is also shared by state officials, who see transhumant livestock rearing as an activity that is detrimental to natural resources. As far as pastoralists are concerned, there is no doubt about the status of pastoral areas because they have always been used and recognised as such. Certain administrators take advantage of this anomalous situation by allocating areas to one social group without taking account of the legitimate interests of other actors.
- **Study on transhumant herders.** The study on transhumant herders entering Bankass District during the rainy season provided information about their provenance, status (whether they were herders or owners), the routes used and zones stayed in, the duration and reason for the stay, their relationship with the resident population and conditions of access to resources. This study was also used to identify a family of transhumant herders that would be a suitable subject for a family portrait.
- **Family portraits.** Portraits were drawn up of four families using the different production systems in the zone.⁷ These studies provided information about the families' systems and survival strategies, the inter-relationships between production systems, conditions of access to natural resources and the disruptions to these systems and their inter-relationships caused by changes due to drought or national and regional policies.⁸

Stage 2: Participatory analysis

The participatory analysis conducted throughout the action-research process involved a series of activities, such as sharing the results of the research activities at different levels (family, community, municipality and district); running information and training sessions, particularly on NRM legislation; and organising exchange visits within and outside Mali. The aim of the analysis was to harmonise previously opposing perceptions and facilitate co-operation between the different categories of participant, despite their diversity and differences.

6. Work on the elaboration of the pastoral map and a study of transhumant pastoralists began in 1998, just before the start of the partnership with SMCPR. The project had also been conducting PRA studies and research on problems related to the management of the Samori forest since 1995.

7. Agro-pastoralism based on farming; agro-pastoralism based on livestock rearing; agro-pastoralism and fishing; and transhumant livestock rearing.

8. Appendix 2 presents an example of a depersonalised family portrait.



Photo: SOS Sahel

Watering animals during the dry season in the Seno



Photo: SOS Sahel

Drissa Seri, fisherman and rice farmer in the Samori

The results of the family portraits were presented at several levels:

- First to the family concerned, in order to verify the information and discuss the effectiveness of their strategies, particularly those concerned with access to and management of natural resources.
- Next, to the community in which the family lives, in order to confirm that the information about the community is representative, and to open up debate about the issue of joint management.
- Finally, at the level of Bankass District, where the results of several portraits were used at a workshop on the issue of shared management of common resources.

These different presentations enabled local communities and decision-makers (the mayor and elected officials, representatives of the State and technical services) to determine the diversity, complementarity and interdependence of certain activities (particularly farming and livestock rearing), to understand that various communities have an interest in livestock rearing and to see the need for preserving the mobility of herds in order to ensure sustainable land management. The presentations helped start a process of dialogue about the management of common resources, and facilitated a rapprochement between the different user groups and actors in this and neighbouring districts. They also made it possible to identify the real causes of problems, suggest how they might be resolved and, in some cases, begin the process of addressing them (see below). This type of participatory analysis is a fundamental part of action-research as the knowledge that it provides produces the impetus for collective actions.

Presentations of the research results were followed up with training and information activities on the legal and legislative framework for NRM (the Pastoral Charter, forestry laws, etc.). This gave local communities and the decentralised authorities an overview of their situation and helped them better understand both the opportunities offered by legislation and the discrepancies between legislation and local practices.

Stage 3: Collective actions

As a result of their participation in these research activities and analysis, the various social groups involved came to support the idea of sharing the management of common resources. Better still, they were motivated enough to make of a number of important decisions and put them into action. However, while this change of attitude was entirely voluntary, it was by no means instantaneous. It came about gradually as participants saw for themselves, through the programme's activities, the potential benefits of sharing the management of natural resources. Although the actions described below provided a framework for addressing the issue of shared management, they did not follow any predetermined course and were implemented in response to the concerns of local communities.

It has to be said that the process was not perfect. Not everyone was equally convinced about the principal of social inclusion in the definition and implementation of NRM regulations, nor did the process of inclusion extend to all stakeholders. The issue of women's involvement still needs to be addressed, and local authorities also have problems involving transhumant herders to any significant degree because of their mobility.

Despite these shortcomings, the actions described below demonstrate how the process of participatory action-research facilitated by the project enabled local people and authorities to define their own solutions to their specific problems in a co-operative and consensual manner. It remains to be seen whether or not their actions are sustainable.

(i) Informed by the results of the research, the authorities and representatives from civil society attend the Sofara forum and decide to implement its recommendations

Soon after the municipal councils were set up, the municipality of Fakala⁹ organised a meeting to discuss the conditions for utilising natural resources in the new context of decentralisation. The authorities from other municipalities whose livestock graze the pastures in Fakala during the dry season were invited to the meeting, including representatives from municipalities in Bankass District.

Delegates from Bankass used the results of the study on transhumant herders (see above) to demonstrate the interdependence between the dryland and seasonally flooded zones in general, and the municipality of Fakala and Bankass District in particular. As the results of the study showed that most transhumant herders visiting Bankass district come from the flooded zone, especially from the municipality of Fakala, they had a pretty strong case for their arguments!

Participants also discussed problems they had encountered moving livestock. They reported that transhumance routes in Bankass district were either non-existent or being encroached upon by farmland, which is making it increasingly difficult to drive herds across the Seno (farming zone) into the Samori (pastoral zone). The regional authorities attending the forum recommended that regionally important transhumance routes in the district be reinstated, a recommendation that was followed up by the delegates from Bankass and, after consultations in each municipality, implemented with the participation of all stakeholders including transhumant herders. The research results were analysed during these consultations, and 110 km of route identified and demarcated in 2000 and 2001 with the support of development partners.

9. Situated in the municipality of Djenné, in the floodplain (central delta of the River Niger).

(ii) Elected municipal officials draw up regulations for managing transhumance routes, and management structures are established to oversee their implementation

These actions followed on from the reinstatement of the transhumance routes. After attending information and training workshops on the Pastoral Charter organised by the project, municipalities in Bankass District drew up local rules for managing transhumance routes. A commission or committee responsible for monitoring the application of these rules was then set up in each municipality and village directly concerned by the routes.

The rules were identified in a participatory manner at a series of local workshops held to ensure that everyone concerned had the opportunity to participate in the process. These were attended by representatives from resident herding and farming communities, the technical services, elected officials, customary associations, etc. The whole process was expensive in terms of time and resources, as it took several months and had to be organised around times when local people were available, but it was well worth the investment as it resulted in consensus among all stakeholders.

(iii) The Ouenkoro forum, initiated by elected officials in Bankass District to facilitate national consultations on NRM problems in the district

Following the forum in Sofara and presentations of the results of various research activities, the authorities in Bankass District decided to organise a big meeting to discuss the future of natural resources in their district. This meeting was attended by over a hundred people representing different sectors of the local community, customary institutions and local authorities, as well as government officials, NGOs, donors and even a Western ambassador. This was the first opportunity for everyone concerned to participate in an informed discussion about NRM issues in the district. At the end of the forum a set of district-level NRM guidelines was drawn up, focusing on the need for social inclusion to ensure the equitable and sustainable management of natural resources.

(iv) The decision to make the district council accountable for the management of Samori Forest, and to include finalisation and implementation of its action plan in the three-year district development plan

In order to adapt environmental action plans to the new context of decentralisation, the Minister responsible for the Environment (through the STP/CIGQE¹⁰) decided that local action plans should be replaced by municipal environmental action plans, and

10. The permanent technical secretariat of the institute responsible for managing environmental issues.

that the municipalities should be equipped with the tools to design them. In view of the interest in the management of the Samori Forest shown by the decision-makers attending the Ouenkoro forum, the municipalities of Baye, Sokoura and Ouenkoro in Bankass District, which share the forest, were selected as test sites for the design of the methodological guide to this process.

The methodology advocated by the STP/CIGQE assumed that the plan would be drawn up at municipal level. However, at the meeting to launch the operation delegates from the twelve municipalities in the district (including those from the three municipalities concerned) argued that it would be more appropriate for the district to take responsibility for managing this forest, given that certain issues concerned more than one municipality and even extended beyond district boundaries. The STP/CIGQE acceded to their wishes, and workshops were held in each of the three municipalities involved to ensure that their concerns were taken into account. A plan was then drawn up by consensus at a district-level workshop attended by delegates from the twelve municipalities, civil society associations and the technical services.

(v) Decision to establish consultative bodies representing every category of actor involved in NRM in each municipality and district

This idea was prompted by several consultations, and was put into practice following a workshop on the issues involved in shared natural resource management in the context of decentralisation in Bankass. This workshop brought together elected municipal officials, representatives from the state technical services, the general administration and civil society associations.

After a presentation on the family portraits and results of the research on the Pastoral charter, participants worked in sub-groups analysing the depersonalised portraits, identifying the families' strategies, assessing the relevance of shared management and discussing the conditions for shared management.

Analysis of the family portraits showed that none of the families relied on just one production system for their survival. This led participants to question the sectoral approach to rural development advocated by the technical services and many development organisations. It also revealed the drawbacks of the village land management approach, which takes little account of the interests of the non-resident groups that use resources on the territory at certain times of year, but do not live there permanently (e.g. transhumant herders). As the analysis progressed, participants also recognised that activities may extend beyond the boundaries of a single municipality, and that it is important to foster relationships between municipalities.

Discussions about the conditions for shared management highlighted the need to identify all those concerned and involve them in the decision making process, in order to make everyone feel that the rules concern them and should be respected. As a result of these discussions participants decide to set up consultative bodies within each municipality and district. Particular emphasis was placed on involving pastoralists and women, as these are the most marginalized social groups in other traditional and modern decision-making processes, including decentralised local government councils.

The project approach taken by SOS Sahel can be summarised as:

- leading participatory research activities with resource persons;
- using presentations and workshops to share research results and other relevant information with people and institutions, in order to reach a critical mass of support for the concept of shared management and motivate communities to undertake collective actions based on the principle of inclusion for all stakeholders;
- providing the support required to carry out such actions.

Participatory analysis provides the link between research and collective action. Without it, the research will either be unproductive or will be used by the external agency to identify its own solutions and initiatives – which are much less likely to be appropriated by stakeholders than those that they have devised for themselves.

Finally, it should be noted that participatory analysis is a highly complex and lengthy process. It therefore requires well-prepared human resources and, above all, plenty of time, as communities need time and support to consolidate their ideas before they can put them into practice.

The Near East Foundation

NEF's experience in promoting social inclusion has been similar to that of SOS Sahel UK. Its approach was grounded in the same principles of enabling local people to make decisions on the basis of what they had learned through research activities and participatory analysis, and of respecting the concept of equity and sustainability.

This section describes how the Natural Resource Management and Development Project (PAGRN) supported a process in which the Waldé Kelka association and its member villages addressed the issue of shared management in the zone of Kelka, in Douentza District. This process involved six basic stages:

- Village consultations on the issue of resource management;
- Action-research: participatory studies and analyses, radio broadcasts;

- Consultative meetings between villages;
- Consultations between non-residents using natural resources and officials from village associations;
- Intercommunity consultations and meetings;
- Establishing a framework for sustained consultations.

These stages did not follow any pre-determined chronological order, but progressed according to the logic of the action-research, which was conducted in an iterative manner appropriate to each stage of the process.

Stage 1: Village-level consultations regarding non-residents' disregard for local rules

It has already been noted that the failure of transhumant herders to comply with local NRM regulations was causing serious problems in the zone of Kelka. The reason for this was that these rules had been drawn up by villages belonging to the *Waldé Kelka* association, without involving other users in the zone. The first activity undertaken by NEF was to lead discussions in all fifteen villages from Waldé Kelka, with the aim of opening a debate on non-residents' lack of involvement in the decision-making process. The complexity of the issues involved and novelty of the concept of shared management prompted some stormy and impassioned discussions, and in certain villages it was necessary to go over the issue of shared management several times, to enable local people to understand what was at stake and see the potential advantages of shared management in the Sahelian environment.

The villages concerned decided that the *Waldé Kelka* association should hold an inter-village meeting, to discuss and identify the most appropriate institutional arrangements for managing their resources in a sustainable manner. The project supported this process with three participatory studies and a series of radio programmes undertaken in the context of its information and awareness raising activities.

Stage 2: Action-research to improve understanding of risk management strategies and gather information on the institutional context

The aim of these studies and radio programmes was to support the process of informed local debate on the following issues:

- **The transhumance system.** Despite the longstanding economic and social links between residents and transhumant herders (manure contracts, the host system, etc.), local residents said that one of the reasons why they had not involved transhumant herders in drawing up local management rules was that they didn't know them. It was not easy to establish whether or not this was true

because the programme team was not very well informed about transhumance systems in the zone. The study on transhumance enabled them to better understand the economic and socio-cultural dynamics of transhumance between the zones of Kelka, the Delta and the Seno.

The results of the study were presented at various village meetings, which helped raise residents' awareness of the different aspects of pastoralism and transhumance. These presentations also enabled them to see Kelka's strategic importance in the transhumance circuits, and the ways in which pastoralism contributes to their own production systems (manure, social links with the Delta in times of drought, etc.). By the end of the meetings some residents were saying that it was a shame that these exchanges and reciprocal links had weakened over time, partly because of drought and partly because "things had changed".

- **Institutional analysis.** This involved self-evaluation by the village associations belonging to *Waldé Kelka*, in which members assessed the strengths and weaknesses of their organisations. A similar study conducted in 1998¹¹ was then used to determine the progress made in various areas, such as representation of the most marginalized social groups (women, resident and transhumant herders), the functionality of the associations, the content and implementation of regulations, social cohesion, legitimacy, etc.

These analyses led participants to recognise that incomers and women were under-represented in the decision-making processes of their associations. As a result they decided that transhumant herders should be properly represented in their management approach, and the villages of Amba and Tété Ompto spontaneously decided to renew and reconstitute their associations accordingly.

- **Family portraits.**¹² This activity consisted of studying the production systems and strategies of three types of family that are dependent on natural resources in the zone of Kelka.¹³ The results of the family portraits were presented at different levels (family and community¹⁴), enabling the families and communities concerned to better understand the agro-pastoral systems used by people from the delta. Moreover, the debates and discussions following the presentations helped resident and transhumant communities to get to know each other better and learn more about each other's production systems and strategies for utilising resources.

11. The results of this study were published in Dryland Issue Paper No. 74, *Natural resource management by local associations in the Kelka region of Mali* (Yacouba Deme), IIED, London 1998.

12. See Appendix I for a summary of this tool.

13. A family of resident Dogon agro-pastoralists from a farming background; a family of resident Fulani agro-pastoralists from a pastoralist background; and a family of transhumant Fulani herders living in the inland delta.

14. Time constraints meant that it was not possible to present the results at municipal and district level in Douentza in the context of the SM CPR programme.

- **Radio broadcasts.** The objective of these programmes was large-scale dissemination of information on shared management, in order to broaden the framework for debate around the programme's action-research activities. The broadcasts dealt with themes on issues related to managing resources in the context of decentralisation, the relevance of shared management and the complementarity between production systems (farming – livestock rearing). A total of 363 programmes were devised and broadcast in the form of debates, village games, mini-programmes and interviews.

Although it is difficult to evaluate the impact of these broadcasts, the large number of requests to repeat them, the appreciable reduction in the number of conflicts between 'farmers' and 'herders', and the ability of partner villages to grasp the concept of shared management more quickly indicate that radio played a very important role in raising people's awareness of these issues.

Stage 3: Inter-village consultations

After these different stages of participatory research and awareness-raising, the next task was to facilitate discussions between villages belonging to the *Waldé Kelka* association, so that the inter-village structure could identify a strategy and approach for putting into practice the principle of shared natural resource management.

The objective of these meetings was to harmonise the fifteen member villages' visions of how non-residents could be involved in managing the resources in Kelka Forest. These discussions focused on the different forms, strengths and weaknesses of resource management that had been used in the past.

The outcome of these debates was that the *Waldé Kelka* association recognised the relevance and merits of inclusive management. As one leader said, *"We won't get anywhere by trying to manage these resources without the others. Since we can't stop other groups using the resources, it would be ludicrous not to involve them in our plans. We always used to criticise the State for its centralist approach – now we should advocate openness and dialogue so that we can manage our resources better"*.

Having been further convinced by the presentations of the results of the studies, the fifteen villages mandated their representatives to support the idea of extending discussions about shared resource management beyond their association, and officials from *Waldé Kelka* contacted non-resident users and the councils of the four relevant municipalities in the zone.

Stage 4: Consultations between non-resident users and representatives from village associations

NEF facilitated meetings in each of the four municipalities concerned, in order to talk to the municipal councils, discuss the NRM issues involved in decentralisation and improve their understanding of the importance of shared management in local development. These meetings also helped prepare the ground for an inter-community meeting on the same subject.

The study on transhumance had identified the Delta villages of Konza, Sendégué, Konna and Soye as the provenance of many of the transhumant herders passing through the zone of Kelka. While NEF was organising the NRM meetings, officials from *Waldé Kelka* contacted the owners of livestock from these villages so that they could come to an agreement on shared management. These owners do not go on transhumance themselves as they employ herders to look after their livestock, and only venture into the bush if there are serious disputes between the hired herders and residents.

The aim of the meeting was to inform these livestock owners about the problems encountered in managing Kelka, and of the need to invite residents and non-residents to an inter-community meeting to resolve the issue of non-compliance with the rules for managing resources in the zone.

Stage 5: The inter-community meeting

This meeting brought together representatives of the different groups of residents in Kelka and transhumants from the Delta, in order to discuss the problems with the utilisation and management of resources in the zone.

The meeting was very successful, enabling the different parties to air their views on the causes of conflict over NRM and the pressing need for equitable and sustainable management. The rehabilitation of pastoral resources (routes, camping areas, water points) was identified as an essential first step in facilitating shared management and limiting conflicts between farmers and herders. The proposal to set up a consultative body responsible for monitoring the process of rehabilitating pastoral resources was carried; while other recommendations, which were subsequently implemented by NEF to support the process, included training officials in advocacy, negotiation and alternative conflict management.

Stage 6: Establishing a consultative body

The informal consultative body set up after the inter-community meeting is composed of representatives of local government administrations, mayors, the state technical services, the Kelka association, transhumant herders, the Chamber of Agriculture, NEF and resource persons such as the village chief from Boré. After

several visits to the villages concerned, this committee helped each village set up a committee responsible for identifying and establishing transhumance routes and camping areas. These committees should provide a platform for establishing genuine local management.

This informal body is fairly representative of the different resource users in Kelka. It meets every three months to monitor the activities undertaken by the village committees, discuss any problems that have arisen and plan further joint activities for peaceful and sustainable resource management.

The lessons learned

The joint management of common natural resources is an extremely complex undertaking since it is predicated on equitable power sharing between stakeholders from different sectors of the community, NRM institutions, local governments and even development organisations. Since it is a process that questions the existing balance of power between these groups, it can be extremely challenging for those wielding that power!

As NGOs, it is not up to NEF or SOS Sahel UK to act as arbitrators or substitutes for any of the actors. Our role is to enable all these stakeholders to address the issue of joint management in an informed manner, and ensure that they have access to the same level of information. This will help them find sustainable solutions to their problems, although there are certain pre-requisites for this, which are outlined below:

a) Quality training for project staff and other actors. It is very important that project staff are trained on the underlying institutional, social and economic dynamics of shared management, particularly in the context of the Sahel, so that they have a thorough understanding of the whole process of promoting shared management.

In order to maintain a shared vision of the issue, this training should be extended to all those concerned with shared management. The sectoral development approach is firmly entrenched at every level (both among development agents and local communities), while local people's survival strategies are based on a global approach to development. Shared management will only be possible if attitudes change and the inter-relationship between production systems is recognised. Participatory analysis of the results of action-research (particularly the family portraits) can facilitate this understanding.

b) An iterative approach. It is not necessary to start with a set 'model'. In fact, it is not desirable to work through a series of pre-determined activities as this can

prevent local people from appropriating the process. The main thing is to facilitate a process that promotes the collection and analysis of good quality information by the actors concerned, so that they have the opportunity to make well informed decisions.

Action-research programmes have to be flexible since their aim is to conduct studies that will enable people to act in an informed manner. Therefore the objectives set at the beginning of an action-research programme should be seen as pointers that may be changed as the process progresses. This way of working means that the team has to be able to cope with unexpected changes, and to follow the rhythm at which the communities themselves appropriate new knowledge and skills.

c) More flexible funding cycles. Donor funding requirements are another important consideration. Unfortunately the three- to five-year funding cycles of most development programmes and projects are too short, and the demand for results too restrictive to enable local people to develop the capacities needed for action-research. Funding cycles must be more flexible to enable local people to work at their own speed, particularly when socio-political processes like shared management of common resources are involved.

Conclusion



Both of the projects discussed in this paper have been working to address the issue of social inclusion of marginalized actors in general, and transhumant herders in particular. They also worked with the same tools: participatory action-research and analysis, consultations based on the results of the research, dissemination of information and awareness-raising.

Thanks to the flexibility and effectiveness of this approach, programme beneficiaries appropriated the process and supported the principle of shared natural resource management. NRM structures in the two zones then began putting this principle into practice by setting up institutional mechanisms that allowed most actors to participate in NRM decision-making processes (consultative bodies, joint committees).

However, the desire to include all actors has neither been entirely fulfilled nor secured in the zones covered by the projects. So far the process has failed to take account of resident or non-resident women, despite the fact that they constitute a significant group of resource users. The challenge now is to address this problem as soon as possible.

It should also be said that there is no guarantee that the programmes' achievements will be sustainable, given the number of challenges that still need to be addressed.

These include:

a) **Increasing the capacities of NRM associations to enable them to react to internal and external change and threats.** The social, economic, political and ecological environments in which local people and their institutions evolve are continually changing. In order to remain useful, local institutions must be able to respond appropriately to internal and external dynamics. Since the management of common natural resources is a highly political issue, it often involves power struggles over access to and control of resources. Therefore it is essential to increase the capacity of local institutions to address these threats and tackle the more institutional and social aspects of NRM.

b) **Ensuring internal and external accountability and legitimacy.** This issue is linked to the preceding point, but specifically relates to the capacity of an organisation to question its own legitimacy in a dynamic and evolving environment. In order to ensure that they retain their relevance and legitimacy, it is essential that NRM organisations develop and use mechanisms that enable their members to question the objectives, activities and decisions of their organisations.

c) **Reaching a critical mass.** The concept of shared management and systems for managing common resources are relatively new to many in the development world and the Sahelian state services. It takes time and resources to engage in the negotiation and consultation required to take account of the different stakeholders involved, and for these ideas to be widely disseminated this approach needs to be supported by a 'critical mass' of individuals and institutions. If this is to happen everyone, including local people, will need to identify and develop new skills. Another major challenge requiring urgent attention is improving the negative perceptions that decision-makers, the technical services, project staff and other actors have of pastoralism.

Both projects intend to continue the process to consolidate their achievements and address these challenges. To do this they have committed themselves to collaborating and exchanging ideas with all structures interested in promoting the shared management of common resources.

Appendix 1: Summary of the 'Family Portrait'

What is a family portrait?

The family portrait is a research tool that has several functions:

- It enables the team and local people (both resident and non-resident) to learn more about themselves and better understand each other's production systems and strategies.
- It facilitates the identification of local mechanisms for joint management.
- It can be used to inform local authorities about the ways in which natural resources are managed and utilised, and to open discussions on joint management.

While PRA and other tools are often based on village territory, the Family Portrait can, through a single family, take account of the village, municipal and district levels, and operate on an even larger scale if necessary.

The different stages involved

Developing interview guidelines

The first stage of the process is to develop interview guidelines that cover the following points:

- The nature of the family's production system (farming, livestock rearing, fishing, forestry, trade, crafts, etc.);
- How and why the system has developed;
- The links between the family's system and the outside world (projects, government, the situation in other zones and districts, relations with neighbours).

Selecting a family

First define the criteria that will be used to select the family (transhumant herders, residents from a farming background, pastoralists, foresters, fishermen, etc.). These criteria should then be presented at a general meeting before being used to select a family.

Data collection and analysis, gathering supplementary information

This stage is quite time-consuming as it involves mobilising all family members for a period of at least 15 days. This means that the team will have to analyse the data and then visit the family two or three times.

Reporting back

Reporting back to the family

The aim of this presentation is to validate the information, identify points that should be excluded from the presentation to the community, and enable the family to assess the viability of its production system.

Reporting back to the community

At community level, analysis of the results of the family portrait is based on the problems and strategies identified in the portrait.

The objectives of this presentation are to:

- determine whether or not the family portrait is representative of the community;
- learn more about the issue of shared management of natural resources at community level;
- discuss different views of shared natural resource management;
- identify the issues and actors involved in shared management.

Appendix 2: Portrait of Ousmane Sidibé

Ousmane Sidibé is Fulani. He was born in 1927 in Wori, in the municipality of Sokoura. If you ask him where he's from, he'll say Doukoro in the municipality of Diarrassagou, although he hasn't lived there for years because he's a transhumant herder. His family moves between Bourgou, Massakana (in the municipality of Sokoura), Kouroum (a camp near the village of Ganida) and the pasturelands of the River Sourou in the Samori. Family weddings and other festivals are celebrated in Doukoro.

Ousmane has two wives: Djenéba Sidibé, his aunt's daughter, and Kadida Sidibé, a more distant relative from the same clan. The family herd supports his large extended family of 38, which includes 7 children attending Koranic school and 17 children under the age of 10.

Ousmane isn't a member of any association or organisation as he thinks belonging to them is more trouble than it's worth. However, he works at maintaining a good relationship with permanent residents in the places in which he normally resides. His son Hamadou has just joined a herders' association.

Like his father before him, Ousmane makes his living from rearing livestock. He inherited his herd from his father in 1969. His father had managed to rebuild the herd from the single survivor of a major epidemic that wiped out many livestock. Most of the milk produced is used for household consumption and any surplus is sold to meet its daily needs. Major expenses are covered by selling small ruminants and the occasional cow.

Until 1985 the animals followed the same transhumance route between Samori and Bourgou, leaving the Samori forest at harvest time to go and graze on crop residues. Ousmane remembers that when he was a young herder, the Dogon and Dafing in the Seno and Samori only had a few donkeys and small ruminants. The Fulani used to camp next to the fields, send their livestock in as soon as the harvest was over and move on to Bourgou for the dry season when the crop residues were gone. There was plenty of grazing then and they used

to drink from the Bani-Niger river. Ousmane used to use the same hosts as his father and made sure he maintained a good relationship with them, often giving them milk, setting his animals to work in their fields and fertilising them too, of course. He particularly remembers two major events:

- In the 1960s the site he used as a rainy season camp, Yari, started being taken over by farming hamlets. He had been using this site since his grandfather's time, but over the years many hamlets grew up, even though the herders tried to stop them by getting Yari officially recognised as a pastoral camp and refusing to sink a pastoral well because they were worried that farmers would move in. They can't use these pastures at all now.
- His herd was hit hard by the drought in 1985, but although he lost many animals enough survived to enable him to build it up again over the years.

In the 1980s the pastures in the Samori became richer because there was more water in the River Sourou. So Ousmane decided to split up his herd, keeping half in the Samori and continuing to send the other half on long transhumance. He had to change his strategy again in 1998 because there were far fewer grazing areas and transhumance routes left by then. Transhumance between Bourgou and the Samori was becoming very difficult because the residents of Samori and Seno had started keeping a lot of animals themselves, and their livestock got first access to the fields after the harvest. Ousmane thinks that there are no controls over new fields now, and that landowners just set them up wherever they want. The routes normally used by his herds are often blocked by fields that weren't there the previous year, so more fields get damaged, and there are more incidents and even disputes between herders and the owners of the fields. He also says that it has become difficult to find anywhere to rest during transhumance in the Seno and Samori because fields have sprung up around the pastoral camping areas. Because of this he has kept one herd in the Samori and one in Bourgou since 1998, sending them on small-scale transhumance in each zone.

The herd in Bourgou is tended by his sons Mody, Mamadou and Amadou. In the rainy season the delta is flooded by the River Niger so they go towards the Mauritanian border, even though there's always a risk that their livestock will be stolen there. Ousmane reckons that local people are in on this.

In the dry season they go down to the part of the delta where the floodwaters have receded. They have to negotiate access to grazing and pay taxes to the Dioro, the administration and sometimes villagers too, but the herd can move around freely once access has been agreed. Ousmane pays between 200,000 FCFA and 500,000 FCFA in taxes every year, depending on the quality of the

grass. He prefers to pay in livestock rather than cash. Things are different in the Samori because although access is free, each field has a pound, so he often ends up paying more for grazing there than he does on taxes in Bourgou because he spends more on fines.

The herd in the Samori spends the rainy season in Kouroum, the rainy season camp, grazing out in the bush and drinking from water holes. They are herded by his son Ali and grandson Allaye. At the end of the rains the grazing is often good, but the water holes dry up quickly so the herd moves on to fields that have been freed up after the harvest, where they can drink from the well. In the dry season the herd is divided up. Ousmane stays in Massakana with a few animals, while Hamadoun, Ali and the paid herder, Moussa, head off towards the River Sourou, where the herd grazes on the residues of the rice crop and eventually in the riverbed itself. The animals drink from the river, but it's getting harder and harder to get access to the river now because of the rice fields and the increasingly narrow routes. They need lots of herders to make sure the animals don't damage the crops, and they often have to split up large herds so that they can use the small fields with good grazing. Even though he has changed his strategy and done everything he can, Ousmane has had to buy animal feed at the end of the dry season since 1985.

His sheep are kept with the cows in Samori. Until 2000 he paid a herder to look after them. The goats stay with the other animals during the rainy season but spend the dry season in the bush.

The family consumes most of the milk produced by his herd, and the women sell any surplus at the local markets. They have the right to the milk from their husband's cows and use this income to buy condiments. There is usually a surplus of milk during the rainy season, when sales drop off due to lack of demand and because the family is stuck out in the bush. The women used to be able to save up to buy jewelry and small ruminants, but nowadays they can't even count on covering the price of their condiments. They give milk to their hosts to keep up a good relationship with them.

Although Ousmane doesn't grow any crops he supports his younger brother, an agro-pastoralist in Doukoro. He pays his brother's labour costs and all his family's taxes, and is answerable for anything done by members of his brother's family. Despite this support, his brother doesn't give him any grain, although members of Ousmane's family are taken care of when they stay in Doukoro. His brother's farming provides Ousmane with some security, as it's becoming increasingly difficult to survive on livestock rearing alone. Forty years ago the grass was rich, there was plenty of space and animals were rarely sold because

there was sufficient income from milk sales. A family of 20 could live off a herd of 7 cattle then, but nowadays Ousmane reckons that it takes 40 animals to feed a family that size.



Photo: SOS Sahel

Ousmane Sidibé's animals

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